Sustainable Futures:

Lessons from the Nordic Countries

Report of the Yukon Government Economic Mission to the Nordic Countries

June, 1989

Yukon
Executive Council Office

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I Executive Summary

In June of 1989 the Yukon Government sponsored an economic mission to the three Nordic countries of Sweden, Finland and Norway. The group included four people each from the public and private sectors. The public officials were: Tony Penikett, Premier and minister responsible for the Yukon Development Corporation; Art Webster, Minister of Renewable Resources and Tourism; Jim Beebe, director of policy and intergovernmental relations (trip organizer) and Catherine Holt, cabinet communications advisor (author of report). The four private sector delegates were: Mark Wedge, president of the Yukon Indian Development Corporation; Eva Howe, owner of Rainbow Tours and our Swedish interpreter; Dave Loeks, president of the Tourism Industry Association of the Yukon and a wilderness outfitter; and Tim Gregory, owner of Northern Splendor, the Yukon's first reindeer farm.

The purpose of the mission was to gather ideas for the diversification of the Yukon's economy. It was designed to follow the Yukon 2000 economic planning in 1986-88 when the government held hearings in each Yukon community and with every interest group in the territory to determine what Yukoners wanted for the future of their economy. The hearings resulted in the Yukon Economic Strategy. There was consensus among Yukon people that they had four goals:

1. The option to stay in the Yukon and not be forced out by bad economic times;

2. An acceptable quality of life through economic opportunity and a protected environment;

3. An equal economic chance for all Yukoners; and

4. Control of their future through control of the economy, including more local and regional decision-making and more Yukon ownership.

The northern communities in the Nordic countries have faced many of the same problems for economic development that the Yukon faces. By European standards they are small, remote communities with cold climates. Two of the communities we visited began as company mining towns, and a third was almost completely destroyed in the Second World War.

Over the last 50 years, and mostly in the last 10 years, these communities have been successful in diversifying and increasing local control of their economies.

Many of their circumstances are different from the Yukon's, but they are still the closest example available to us for what our future could

look like. They have many ideas about what can be achieved in northern locations, and they have achieved things that surprise Canadians, who often feel the north faces insurmountable barriers to economic diversification.

Delegates were chosen from both the public and private sector because each must work with the other to create effective change. That was a lesson reinforced by the high level of co-operation between business and government that we observed in all of the Nordic countries.

The Mission:

We went first to Stockholm, Oslo and Helsinki, the capitals of the three countries. In each city we were given background information by the Canadian ambassador and embassy staff and were briefed by government officials on national policies for regional development. The briefings provided a framework for what we saw later in northern communities by providing a comparison among the three countries, an explanation of how the government approaches regional development and an understanding of the tools available for the people in the northern regions.

We then visited three communities located near the Arctic Circle to see economic development in action: Skelleftea and Kiruna in northern Sweden and Rovaniemi in northern Finland.

To summarize what we learned, all three countries have very active regional development programs that act as risk financiers for new and expanding businesses and work to improve government services to the regions. They divide their countries into different regions and provide more help to the north than to other regions. They all consider high-technoiogy industries and tourism to hold the most promise for the development of the north, and they are trying to move away from reliance on traditional industries such as mining, forestry and agriculture. An educated and trained workforce is considered the single most important factor in attracting new investment to an area, especially in the high-tech area. The national governments have policies of decentralization, and a great deal of administrative control rests with local governments.

The northern communities all show ingenuity and determination in getting national offices and services located in their communities to broaden their economic base. They all feel it is up to them to improve their situations, that they cannot depend on the national government. Tourism is their biggest growth industry, and they use their wilderness locations and unique native culture as drawing cards. They are trying to attract the lucrative corporate incentive travel market and they promote winter as well as summer tourism.

We saw numerous examples of manufacturing businesses, many of which have resulted from policies of risk financing and local training

and a recognition of the importance of marketing. The processing and serving of local specialty foods is an important northern industry. The example we saw of recycling in a solid waste heating plant is a model of environmental responsibility.

Much more information was gathered than can be included in this report. Some of it is available in the literature that is referenced throughout the report and which is available from the Executive Council Office of the Yukon Government. Further information and copies of this report are also available by contacting the Executive Council Office, Box 2703, Whitehorse, Yukon, Y1A 2C6.

II Itinerary

STOCKHOLM: Monday, June 12

9:00 Briefing at Canadian Embassy.
10:30 Meeting at Swedish Ministry of Labour with officials from the ministry and from the regional development board on regional and restructuring policies, labour market policies and regional investment and development policies.
12:30 Lunch meeting with same officials.
19:30 Dinner at Canadian Embassy with Ambassador Dennis Browne and Swedish representatives of regional planning, labour, tourism and business.

OSLO: Tuesday, June 13

7:00 Depart Stockholm.
8:45 Arrive Oslo.
10:00 Meeting with officials from Norwegian Ministry of Labour and Local Government on regional development policies, labour policies and research and development in the north.
12:30 Meeting with officials from the Regional Development Fund on initiatives for small business and municipalities.
13:30 Lunch meeting with same officials.
15:00 Briefing at Canadian Embassy.
16:00 Premier meets with Norwegian Foreign Minister Thorvald Stoltenberg.
19:30 Dinner at Canadian Embassy with Ambassador Graham Mitchell and Norwegian representatives from government and business.

HELSINKI: Wednesday, June 14

7:00 Depart Oslo.
10:00 Arrive Helsinki.
13:00 Tour of Alaska Collection at National Museum of Finland.
14:00 Meeting with officials from the Finnish Ministry of the Interior and Ministry of Agriculture and Forestry on regional planning, rural and northern development, Sami affairs.
17:00 Reception at Canadian Embassy with Ambassador Mary Vandenhof and Finnish representatives of government, business and cultural organizations.

SKELLEFTEA: Thursday, June 15

7:30 Depart Helsinki.
10:30 Arrive Skelleftea, northern Sweden.
10:45 Meeting and tour at Skeria, high-tech training centre:
a) Background about municipality by marketing director for Skelleftea.
b) University of Lulea's institution at Skeria.
c) Wood technology research.
d) Skelleftea's super computer.
12:30 Lunch with municipal officials.
14:00 Meeting and tour at Expolaris Industrial Service Centre with marketing director.
15:30 Meeting and tour with tourism manager for Skelleftea.
19:00 Dinner hosted by Skelleftea Municipality with municipal officials. Premier attends dinner hosted by Boliden Corporation (investors in Curragh mine at Faro).

KIRUNA: Friday, June 16

9:00 Depart Skelleftea.
11:30 Arrive Kiruna.

Tours of Economic Diversification:

13:30 High-tech factory for manufacturing grindstones.

Group 1:

14:00 National government office for television licencing.
15:00 Satellite Image Corporation.
16:00 National Land Survey office and production of Swedish National Atlas.

Group 2:

14:00 Business Centre for small business development and marketing.
16:00 Water pump manufacturer.
16:30 Lappish handicraft workshop.

Group 3:

14:00 Solid waste heating plant.
16:00 Join group 2.

All Groups:

17:00 Jukkasjarvi adventure tourism facilities.
18:00 Briefing on Kiruna's transition from mining town to space, computer and tourist centre.
19:00 Jukkasjarvi church and folk museum with Lapp exhibits.
20:00 Dinner and briefing on Sami life and issues.

KIRUNA: Saturday, June 17

8:00	State-owned iron mine LKAB, including mushroom-growing project.
11:00	Automated wood planing mill.
12:00	Tomato cultivation in greenhouse.
13:00	Small furniture manufacturer.
14:00	Gemstone polishing and gold panning retail, tourism and training centre.
17:00	Dinner with tourism operator on corporate incentive market and relations with Sami people.

KIRUNA: Sunday, June 18

All-day tour of wilderness tourism operation, Sami reindeer herders' camp and village, Sami reindeer meat-processing business.

ROVANIEMI: Monday, June 19

7:30	Depart Kiruna.
9:00	Arrive Lulea; begin drive to Rovaniemi, northern Finland.
13:00	Briefing and tour of Norrfrys wild meat, fish and berry processing plant in Haparanda, Sweden.
18:00	Arrive Rovaniemi.

ROVANIEMI: Tuesday, June 20

9:00	University of Lapland and briefings on Arctic Centre.
10:00	Regional tourism office on winter tourism.
10:30	Regional Development Fund briefing.
11:30	Municipal Government of Lapland on general background and Sami affairs.
12:00	Lunch at ski chalet hosted by Arctic Centre Real Estate Ltd.
13:30	Forest Research Institute.
14:30	Reindeer Owners' Association.
15:30	Lapland Provincial Museum.
16:00	Municipal administration centre and presentation on Lapland.
17:00	Dinner meeting with municipal officials.

Wednesday, June 21

Return to Whitehorse via Helsinki, Frankfurt and Vancouver

III Map

ARCTIC CIRCLE
KIRUNA
ROVANIEMI
HAPARANDA
SWEDEN
FINLAND
NORWAY
OSLO
STOCKHOLM
Helsinki
BALTIC SEA

IV Public Support for Economic Development

A. Sweden

1. Overview

Sweden is governed by the Social Democratic Party, which has been in power for 51 of the last 57 years.

Its political stability reflects the homogeneous nature of Swedish society and the remarkable degree to which Swedes are able to reach consensus on major issues. This tradition has become known as "The Swedish Model" and has attracted international attention. It is based on the Swedish preference for the "middle way", with the result that dramatic change is difficult and most change consists of incremental adjustments to tried and true programs and policies. The political agenda is now dominated by environmental issues, which have overtaken the welfare state and economic issues as the main public concern.

The Swedish economy relies on heavy government spending and, consequently, a high tax rate. The average income tax rate is 40-50% and goes as high as 72%. The government is currently attempting tax reform to conform with the lower European Economic Community norms.

The Swedish economy's strength lies in exports based on high quality and high technical standards. Swedish companies set international standards in engineering and marketing. They invest heavily in research and development, and they have low energy costs and corporate taxes and a well-educated work force.

State ownership of industry has never been a factor; it is about half of that in Canada. Sweden has undertaken a program of retraining and new industrial investment to move away from uncompetitive industries.

The Swedish public sector is enormous and accounts for 65% of national spending, leaving 35% for the private sector (the proportions are roughly reversed in Canada).

A fundamental principle of government in Sweden, as with Norway and Finland, is decentralization. Their belief in the importance of having decisions made, and spending done, at the local level was emphasized to us repeatedly and proved to be instrumental in many development projects in the municipalities we visited.

The public service is divided very strongly between policy-making functions and program delivery. Policy and legislative development are done in the

central offices in Stockholm, where ministry staffs average only about 100 people. Program delivery is delegated to two levels of local government. There are 24 counties with elected administrations and a governor appointed by the national government who chairs the administrative council. Their main responsibility is health care.

Then there are 284 elected municipal governments. A municipality, in all the Nordic countries, means a region encompassing a number of separate communities rather than a single community, as in the Canadian use of the word. Municipal governments provide local services such as education and regional planning. The chair of a municipal council is a position of great authority in the Swedish system.

Both levels of government can raise their own income taxes.

The population of Sweden is 8.4 million, and the official unemployment rate is 1%. This ranges from less than 1% in Stockholm and to more than 3% in the north. The official rate is a matter of debate; some officials said it is closer to 5% in the north, with some areas double that, and 3% in the south. The reduction of unemployment is the overriding concern of all regional development programs.

2. Regional Development Fund

We met with a group of public servants from the Ministry of Labour and the regional development fund (Swedish acronym SIND).

The stated goals of regional development are, generally, to have balanced population growth throughout the country and to make employment, services and a good environment available to everyone. It should promote the positive development of businesses to achieve these goals.

For regional development purposes, the country is divided into three regions: A) north, B) mid-north and C) middle. The south is not included. The amount of assistance provided increases the further north the region. The northern region has 350,000 people, which is 4% of the population. It has 580 manufacturers and there is more reliance on traditional industries such as forestry and agriculture than in other parts of country. In this region grants and loans can be up to 50% of the total financing needed. In area B, the limit is 35%; in area C, it is 20%.

Both of the northern communities we visited in Sweden, Skelleftea and Kiruna, are located in area A.

There is also a separate Norrland Fund dedicated to increasing development in the four northernmost counties in area A.

Each county has an elected regional development board with a chair appointed by the national government and a support staff for technical advice. The board decides how regional development funds will be spent in that county. Boards in the north have larger budgets than those in other regions.

Manufacturers, wholesalers, fur farmers and aquaculturists, municipal and private tourist businesses, solid fuel (peat and wood chip) producers, and companies that build small industrial parks and technology centres can all receive regional development support.

Grants and loans are available for employment, transportation, buildings and machinery and almost every conceivable aspect of business.

There is a division between the regional development responsibilities of the Ministry of Labour and those of SIND.

Ministry of Labour

The ministry supports investments in buildings and job creation. It determines how much support a region should receive for each job created. It also provides transportation subsidies of 10-50%. This subsidy is intended to equalize the shipping costs between the north and the south so that northern manufacturers are not at a disadvantage. The ministry also examines how other parts of government should be co-ordinated with regional development goals. For example, counties getting the most government money for development are often getting the least for education. The goal is to have more balance.

SIND

A major emphasis for SIND is making the regions more attractive to investors. The most important factor in attracting new investment is increasing the competence of the work force. Consequently, the fund concentrates on higher education programs.

SIND was given 3 million dollars by the government to try new ideas for regional development. Among the programs they have tried are:

1. Computer-aided economic education for business managers provided through distance education. They have one centre with six branches. They are also interested in exporting this technology (see booklet: "Institute for Computer Aided Management").

2. 50% subsidies for a group of company employees to travel to learn. For example, the managing director, production manager and technical chief from a northern company could go Stockholm for a conference and tours of other businesses and to meet people in similar businesses.

3. Consultancy services. SIND reviews a firm and provides money for it to hire needed experts to help it improve business. The goal is to increase the use of consultants by small businesses and to create demand for, and therefore a supply of, consultants. (Sweden sees providing expert consultants as one of its most promising exports.) SIND recognizes that small business people may resist having experts tell them how to run their businesses. It also realizes the critical importance of gaining the trust of business people. Its approach is to have the experts go to the business rather than expecting the reverse. Government officials are expected to offer solutions to problems they identify, rather than just criticize.

4. Helping several companies form a consortium to bid on projects larger than any of them alone could win. The goal is to help smaller northern businesses take risks on bigger contracts so they have the chance to grow. If they fail, the bid costs are covered by SIND.

SIND has a program in which it pays half the salary for a student to work in a small business to demonstrate to the student that it can be an interesting career. The program also demonstrates to small business owners that they may benefit from technical competence and therefore may hire the student when her/his training is completed. It is seen as a more low-key and gradual approach to introducing expertise to small businesses than providing the temporary services of a consultant.

SIND also has a program to help unemployed people start new businesses. It works with the regional boards to determine who is accepted in the program. Participants get a short training course and unemployment insurance for the first six months while they establish their businesses. These businesses have had a higher success rate than normal.

The representatives we met claimed that most of the programs SIND has tried have been successful because, in the Swedish fashion, they were based on already proven approaches.

Other Factors

On a national scale, in order to influence investment made by large industrial firms, the government has an agreement with the Federation of Swedish Industries that companies with over 500 employees inform the Ministry of Industry about their investment plans.

The Sami people (native people of the Nordic countries) are not the focus of any special attention by the fund and are not considered to have any special difficulties with economic development.

The major cultural problem the officials identified is that men like the northern outdoor lifestyle more than women do and find it easier to get jobs. There is a parliamentary commission examining how to make northern regions more attractive to women.

No wage or tax incentives are used to entice workers to move north. There are only incentives for industry. Once the jobs are created, they say they have no trouble filling them. They do not have a high turnover of population in the north. For example, there is no "two-year posting" phenomenon as there is in the Canadian north.

There are no standard northern business incentive discounts such as the 10% allowed in the Yukon.

(For more information, see the relevant sections of "The Revitalization of Kiruna: Its Transition from Mining Town to Space, Computer and Tourist Centre" and "Swedish Regional Policy, 1986".)

B. Norway

1. Overview

The Labour Party is now in power in Norway. It has been the leading party since 1945, although a coalition of other parties has formed the government three times since 1963. Prime Minister Gro Harlem Brundtland has become internationally recognized for her work as chair for the United Nations' World Commission on the Environment and Development which prepared "Our Common Future", a report on sustainable development. The country is trying to make sustainable development a reality and set an example for the world.

The population of Norway is 4.2 million. Although its economy is growing more slowly than Sweden's, it concentrates on exports and has low-cost energy and a highly trained work force as well. The economy is now dominated by oil and gas exports from the North Sea. Foreign investment, as with Sweden, is much more strictly controlled than in Canada. With recent loosening of restrictions, foreign investors can now own up to one third of a Norwegian industrial company.

Norway is divided into 19 counties and 454 municipalities. As in Sweden, it emphasizes local control over decision-making and has an extensive system of local government.

The official unemployment rate is about 3%. This is a relatively high rate for Norway and is of great political concern. The highest unemployment in the country is in the three most northern counties, which experience long-term structural unemployment. Its reduction is the main goal of regional development programs.

2. Regional Development Fund

We met with officials from the Ministry of Labour and Local Government and the Regional Development Fund (RDF).

Regional development activity began during post-war reconstruction. The entire north was destroyed during the war, with less than 100 buildings left standing. The RDF was established in 1961.

The population in the north grew until the 1970s and has since declined quite severely as people move to the south.

Rather than following the Swedish model of having a separate board for the fund in each county, the Norwegian fund is administered by the elected county administrations. They are responsible for most of the spending.

As in Sweden, the country is divided into three regions: the north (12% of the population), the central region (24% of the population) and the south and coastal region.

The goals for regional development are to:

1. Provide social stability and a sense of community in all regions;
2. Ensure all areas of country remain populated to ensure military and cultural defence;
3. Generate economic growth and fully utilize the country's resources;
4. Slow down centralization, because it increases costs to government; and
5. Reduce environmental problems created by pressure on resources.

The means of achieving these goals are to increase permanent profitable employment and to ensure equal living conditions in all regions of the country. The concern that all citizens of Norway be treated equally was a basic theme during the discussions about regional development.

To meet its objectives, the RDF provides loans and guarantees for investment in buildings, machinery and equipment and for business development in areas such as planning, product development, marketing, job creation, training, business leadership, exporting, technology transfer and relocation. It provides free advice to businesses about location possibilities and has special programs to support high-tech businesses.

The fund also has a transport subsidy scheme to decrease the cost of shipping to and from the north.

Norway's north is not as developed as Sweden's. The fund is still supporting industries such as fishing, whereas Sweden no longer supports traditional resource industries.

The RDF works with municipalities to finance local projects such as business-owned child care centres, to train entrepreneurs and to diversify single-industry towns. It promotes co-operation between business and the education system and helps women establish their own businesses.

The fund aims to make northern communities more attractive to young people, women, highly skilled people of both sexes and to new firms. It recognizes that rather than creating only one job per family to attract workers to the north, it now has to provide at least two jobs.

As in Sweden, the emphasis is on improving people's qualifications rather than creating make-work projects.

The RDF's annual budget is about $800 million. So far, it has helped 12,000 companies create 150,000 jobs. It funds businesses jointly with private banks and has only a 4% loss on its loans.

At present, the RDF is concentrating on:

1. Decentralizing the fund's operations;

2. Requiring businesses that receive grants and loans to demonstrate more results in the region;

3. Providing jobs for both partners in a couple through increased educational opportunities and services;

4. Changing the emphasis from new business start-ups to the growth of existing businesses.

(see "The Regional Development Fund (RDF)")

Decentralization and Role of Municipalities

A municipality is a region encompassing a number of separate communities. All members of the municipal government are elected and are responsible for social services, health, planning, transportation and some aspects of education. They are perhaps most similar in responsibilities to our territorial governments.

Many municipalities have their own economic development funds. It is the federal government's policy that they will all have them soon, as they stimulate local involvement in the economy and speed decision making.

An interesting pilot project for government decentralization is designating certain municipalities "Special Status Municipalities" with maximum local control. It is a way of trying to make more efficient use of resources, discover local priorities and test the limits of decentralization.

Instead of the national government administering its programs sector by sector, it gives a municipality a lump sum of money. The municipality will be exempted from national regulation and policies and allowed to make its own by-laws. It is then able to test alternative ways to provide service and improve the adaptation of government to local needs. The project is established in two counties and five municipalities so far.

Research and Development in the North

Norway spends 1.9% of its gross national product on research and development. Its goal is 2.5% by 1990 which is the average for OECD (Organization for Economic Co-operation and Development) member countries. By comparison, Sweden spends about 2.8% and Canada spends 1.4%. Norway considers high-technology industries to be the future of its economy.

A senior research officer for the RDF discussed with us the importance to the north of being included in the overall shift in the economy away from natural resources and toward high-technology, and the action the RDF is taking to help the north make that transition.

The north of Norway has three main dependencies:

1. International markets for the export of natural commodities;

2. Natural resource industries; and

3. Government employment.

In the 1950s and '60s Norway developed industrially, in the 1970s the public sector expanded and in the 1980s high-technology has become the "new economic reality". The national emphasis is now on increasing its "competency" in high-technology. The north has been left out of R & D and high-tech spending. It has only a handful of R & D companies and people with masters degrees in engineering; this was pointed to as evidence that the north has no "competency base" to lead the change to a high-tech economy.

The RDF states that catching up requires a change in Norway's philosophical approach to northern development. The measure of success should not be merely that the "national average" has been achieved in the north. High-tech businesses in the north have to be able to compete with international companies.

In order for R & D enterprises to be successful, the drive must come from businesses and workers, and they must ask for government assistance -- it cannot be thrust upon them. In the north there are too few people able to see the opportunities, much less ask for help. The general experience of government is that there is not a lot of demand in the north for business improvement services. There needs to be a change in the business culture so they use these services more.

To increase R & D in the north the regional development fund says it will start, or has started, all of the following:

1. A science park in Tromso (the largest city in the north);

2. A centre for marine biotechnology created by consolidating many small existing institutions;

3. Engineering education at the master's level in the region. (Their studies show that if people are educated in a region they are more likely to stay there. They have started using distance eduction with live broadcasts of classes from Tromso to smaller communities);

4. Strategic basic research programs;

5. Applied research programs;

6. R & D networking with other Nordic countries through institutions rather than the central government;

7. Establishing "centres of competence";

8. Establishing product-development programs;

9. Specific programs for technology diffusion;

10. Engineering and economics students spending a short time in small firms to see if they want to seek employment in the region and for employers to see if they can use them;

11. Stipends for small business managers to do research and attend higher education institutes.

As these are all relatively new programs, there is no measure yet of their success. We did not have time to get full explanations of each initiative. The overall message is that they are facing the problems squarely and have ambitious solutions. Some of them are already in effect, and they fully expect to see all aspects implemented and many of them to be successful.

General

The Norwegians were more forthcoming about the difficulties encountered in northern development than were the Swedes. They were willing to discuss the conflicts created by supporting a project in one region rather than another. Their state of economic development is closer to that of the Yukon, while Sweden is far more advanced. Norway perhaps illustrates the process of economic development, and Sweden illustrates the result.

A potential opportunity for an enterprising Yukoner is the Canada/Norway fund of $200,000 to support research that would benefit both places. Information is available from the Canadian embassy in Oslo.

There is a Norwegian tourist fair held in Oslo every year for other countries. More than 120 Norwegian travel agents attend. The Canadian embassy will help Canadian companies or governments set up displays and literature. It may not be worth sending a person from the Yukon, based on the few Norwegian tourists we get, but a display may be useful.

C. Finland

1. Overview

Finland has a homogeneous population of 4.9 million. At present, it has a coalition government of Conservatives, Social Democrats, and Swedish and Rural parties.

The economy has remained more dependent on industries such as forestry and farming than Norway and Sweden have although metal and engineering industries have become equally important. It is government policy to shift away from agriculture, which requires heavy government subsidies, especially in the north, and to reduce it to the level of self-sufficiency for the country. In forestry, the shift is away from primary products and toward finished paper products, furniture and building material. The forestry industry is still the country's biggest exporter.

The sector with the most growth is the public service. There are four levels of government in Finland: national, provincial, regional and municipal. Municipal governments have the most power. They have a complicated organization with an elected chair of the council at the top, an appointed mayor who operates as a town manager and a separate chair of an executive committee.

(See "Focus on Finland")

Lapland

Lapland is the northernmost province. It has a population of 200,000, half the land mass of Finland and 22 municipalities. The capital is Rovaniemi, 20 kilometres south of the Arctic Circle, with 33,000 people. The Finnish people have lived in Lapland for 500 years and the Sami people for far longer.

During the Second World War more than half the infrastructure of the region was destroyed.

Lapland provides half the hydro power and 10% of the forestry products of Finland. Tourism is expected to be the fastest-growing industry in the 1990s. Lapland is the focus of attention for environmentalists; 15% of the land is under some kind of protection. The officials we met with expressed the opinion that this was enough protection because it hinders economic development.

The population in the north declined in the 1960s and 1970s but has begun growing again in the 1980s. In the last 50 years the number of enterprises has grown five times from 500 to 2,500. Most of the growth is in the service sector. In the last 10 years the government has concentrated on improving social services in order to attract and keep new people. Unemployment peaked at 14% in 1985 and is now 10.5%.

2. Regional Development Fund

In Helsinki, we met with a group of public servants from the Ministry of the Interior and the Ministry of Agriculture. In Rovaniemi, we met with a staff member of the regional office.

The Finnish Regional Development Fund (Finnish acronym KERA) is the least governmental of the three development funds. The Swedish and Norwegian funds are part of the government and get all of their funding from government. Finland has established a corporation with the national government as the largest shareholder and with banks, insurance companies, municipalities and institutions as minority shareholders. It gets funding from the state but also raises money on the private market and finances most of its operations now from the repayment of the loans it makes to businesses. The state guarantees up to 70% of KERA's financial losses, but so far the company has made a profit in every year of operation. It is run by a board independent of the government.

KERA was established in 1971 to specialize in helping small and medium-sized companies, most with work forces under 20 people, in specific areas of Finland. It is more concerned with helping specific businesses than on improving overall regional development.

It concentrates on financing new businesses and on modernizing existing businesses by giving them high-risk loans to purchase state-of-the-art technology.

Two-thirds of KERA's clients are industrial companies, especially in metal- and wood-processing, many of them high-tech. The fund also supports agricultural and tourism businesses and certain types of service businesses as well as industrial manufacturing businesses.

The main principles of the fund are:

1. Not to concentrate only on technology because management and marketing are equally important to new start-up companies and to product development;

2. To encourage business co-operation with, and use of information from, research institutions and universities (described as a difficult but rewarding task);

3. To finance high-risk projects through loans;

4. To nurture a positive attitude toward entrepreneurship and promote entrepreneurship (This is crucially important to supporting small and medium-sized companies in their start-up phase and in getting their products to world markets.

The specific emphasis of the fund changes each year. This year it is trying to slow the growth of tourism and to concentrate on high-technology.

KERA now has 7,000 client companies and helps 500-700 companies get launched each year. It helped create 6,400 jobs in 1988. It provides loans and grants and does its own analysis of a company before it will grant financing.

KERA divides the country into development regions as Sweden and Norway do. It supplies the most help to the northern companies, but only 10% of KERA funds are actually spent in the north.

The 11 regional offices accept applications and make decisions on who gets funding. The terms of the loan are negotiated with the business owner, and interest rates are lower (9.5-13%) than national rates (15%). Applicants are supposed to provide 10% of the capital themselves, but the regional officer in Rovaniemi said if someone has a good idea and good prospects the fund will come up with 100% of the financing. The workable idea is the single most important factor.

Each regional office has an advisory board of entrepreneurs and a staff of business analysts and consultants that help people make application and who do the analysis. The approval time for a loan is quite short. For a loan of less than a $160,000, approval would take four to five weeks. A larger loan would take five to six weeks. For established clients, the approval can take only two or three days.

Rovaniemi

Rovaniemi's office is the regional office for Lapland. It has a staff of 11 and a budget of $171 million in 1988. It has branches that deal with the following industries:

Tourism,
Manufacturing industries,
Fur farming,
Fish farming,
Market gardening,
Peat harvesting, and
Mining.

As this list illustrates it supports a broader range of enterprises than its high-tech emphasis would suggest.

The fund's investments are divided into working capital (20%), machinery and equipment (34%), sites and buildings (46%). Hotels are its single largest investment. These assets help the fund make a profit.

Disseminating information to companies is considered an important aspect of the fund's work.

Companies are monitored to ensure they are not getting into financial difficulty, and services are provided to help them if they do.

Organizations listed as having a co-operative association with KERA include the Government of the NWT as well as the development funds in Sweden, Norway, Scotland and Ireland. The Yukon could examine the possibility, and benefits, of affiliation.

(See "The Regional Development Fund of Finland Ltd.", the 1987 annual report with the same title and especially papers by Veikko Vuorikari for more information.)

D. Comparison of Regional Development Funds

Similarities

1. Governments in all three countries are prepared to act as risk financiers to ensure that new and expanding businesses get the money they need.

2. All three development funds divide the country into regions and supply the most help to the north.

3. They all emphasize the importance to their national economy, including that of the northern region, of increasing its competence in the high-technology sector.

4. They all emphasize that the single most important factor in attracting new investment to the north is providing a trained and educated work force.

5. All three consider tourism the most promising growth industry for the north.

Differences

The major differences are mostly in degree of emphasis on any of the above themes. Sweden is the furthest along in moving into a high-tech economy. Finland puts the least emphasis on providing training and education through the development fund. For the most part it is remarkable how similar the three funds are in their definition of what kind of help the state should provide to business, where the future of their economies lie and the importance of including the north in that future.

E. Education and Training

The overwhelming importance of education and training to successful economic development was impressed upon us time and time again in all three countries. It was described as the single most important factor in economic development. Its importance was summarized, by an official with the Norwegian Regional Development Fund, in the sentence: The more highly trained and educated the workforce in a region, the more investment and economic development it will attract.

We toured, and were briefed on, three different types of training and educational facilities and programs: the University of Lapland and its Arctic Centre in Rovaniemi, Finland; Skeria, a local college affiliated with a regional university in Skelleftea, Sweden; and a training program for entrepreneurs in Kiruna, Sweden.

1. University of Lapland (Rovaniemi, Finland)

Rovaniemi, on the Arctic Circle, is the capital of Lapland, the most northern province of Finland. It has a population of 33,000, and the provincial population is 200,000.

It has a university with a small student population but an ambitious curriculum: 1,500 students and six full degree-granting programs (master of education, education administration, law, social sciences, administrative sciences and a lower law degree). Since it opened 10 years ago, the number of students has tripled. The student:teacher ratio is 10:1. It is planning to expand into programs for a master of fine arts, economics (business), and tourism training.

The university administrators emphasized their achievements in regional development, which include: providing training for employees in the area, using the local culture in teaching, and

a high number of graduates who stay and work in the area.

2. Arctic Centre (Rovaniemi, Finland)

This was one of the most exciting projects we saw, and it offers an opportunity for the Yukon, and especially Yukon College, to make new circumpolar links.

The Arctic Centre is an institution affiliated with the University of Lapland. It is in the process of developing a new facility and increasing its activity. The planning, architectural design and government funding are in place, and it will be fully operating by 1992.

The inspiration for the centre was the growing interest in the arctic's resources and the absence of an institution dedicated to the circumpolar Arctic rather than the arctic region of a single country. It was originally conceived as a museum, but the idea has evolved into a science centre.

There are three main aspects to the centre:

1. It will promote arctic research by collecting, coordinating and distributing information and by organizing interdisciplinary seminars and congresses each year. An inaugural conference on "The Future of the Arctic" is scheduled for the summer of 1990.

2. It will establish a data bank that will consolidate data systems from around the world and provide a complete registry of research on the Arctic. The staff is already working to establish links with researchers around the world and plan an international conference in two years for information officers who deal with arctic research. They will also hold the 13th Polar Libraries Colloquy in June 1990.

3. It will have public exhibits on the interaction of people and nature, natural resources, environment, culture and technology in the Arctic. This is seen as a resource for schools and the university and as a tourist attraction.

The officials we met with said a science centre is a more modern approach than a museum. It will provide "a bridge between the arctic area and the information society" by relaying research information to different groups faster than can be done through research reports and textbooks.

(See two publications: "Arctic Centre" and "The Arctic Centre - A Northern Science Complex" for more details.)

They are also very interested in including Yukon College in their circumpolar network. They already have an active association with Lakehead University in Thunder Bay and have some contact with the University of Alaska in Fairbanks.

As an interesting note about northern development, the municipal council of Rovaniemi used a great deal of initiative to get the Arctic Centre funded by the national government. They held an international architectural competition as a way to begin promoting the centre and making circumpolar links. The winner was a Danish architect whose design is quite spectacular.

The architectural plan and concept for the institute was then presented to the national government. The presentation was timed to coincide with the government's decision to fund some major projects as part of the celebration of Finland's 75 years of independence in 1992. They got the funding through planning and persistence, even though there is another, larger science centre already planned for southern Finland.

3. Skeria High-Tech Centre (Skelleftea, Sweden)

Skelleftea is a community of 33,000 on the coast of northern Sweden. It is the centre for a "municipality" of 75,000. Its employment is in mining (30%), services (35%), high-tech industry (30%) and forestry (5%). It is a new model community, a well-planned expansion of a company mining town and it prides itself on its innovation, imagination and initiative in expanding its economy.

Skelleftea is between two university towns: Umea, which has a university for the "professions" with 8,000 students, and Lulea, with a technical university and 3,000 students. Despite its proximity to these universities, Skelleftea has carved out a niche for its own institute of higher learning. Its leaders recognize that it has to keep young people in the town as a resource and that such an institution is an important factor in attracting government programs.

Skeria is a hybrid institution most similar to a technical college in Canada. It has four independent units:

1. An Industrial Development Centre which conducts projects, co-operative work and short-term studies for individual companies.

2. A Wood Technology Centre where post-graduate studies are conducted. The research is to improve industry's use of logs, drying and preservation techniques and range of wood products. One example of their work is the use of medical CAT scan equipment to analyse the interior of logs and determine the best way to cut them.

3. A branch of Lulea University which offers training in mechanical and civil engineering to the master of science level and in electronics and vocational upgrading for older workers who want to move into managerial jobs. They have a staff of 30 for 160 students, but plan to expand to a staff of 50-60 for 450-500 students within five years.

4. A Special Studies Centre administered by the local board of education. It provides distance education, lectures and conference services, education for teachers and education on commission. It has rooms, conference services and computers for hire. The "education on commission" is a money maker based on the sale of training packages to companies. The selling points are going to the company's location, tailoring the teaching schedule to suit the company, helping companies co-operate with each other and saving the cost of sending employees to Stockholm. The centre hires teachers from Umea, Lulea or Stockholm to meet the needs of their client companies.

The four units, together, have 100 employees and share equipment and rooms so they all have good resources. The budget is about $14 million a year, $2 million from government and the rest from the sale of services to private business.

In addition, the Skeria Centre has a new operation: the largest super computer in Sweden and one of the largest in Europe. The centre was very aggressive in acquiring it. The national government wanted to establish a

super computer centre somewhere in Sweden but hadn't decided where. The municipality took the initiative and bought one with the proceeds from the sale of hydro power and thus made the national government's decision for it.

The computer is connected with an international network and is considered a national resource. Skeria and the super computer are indicative of Skelletea's determination to become a high-tech centre despite its northern location.

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4. *Entrepreneurs' Training (Kiruna, Sweden)*

Kiruna is the central community of the most northerly municipality in Sweden. It is at approximately the same latitude as Old Crow. This area is reminiscent of the Yukon in landscape and climate, although it is more populated and more developed economically. It has a population of 26,000 and a density of 2.5 people per square kilometre, which is about the same as Canada. In European terms it is a small, remote town.

It was originally established at the turn of the century as a company town for what was, at one time, the world's largest iron mine. The mine started to decline in the mid-1970s as world demand for iron fell. The number of employees has been cut from 5,000 to about 1,500 and the population of Kiruna has dropped from 31,222 to 26,000.

The population decline is less than the reduction in mine employees in part because Kiruna has had some success with "The Kiruna Project". This is a plan for diversifying the municipality's economy so it can survive the decline of the iron mine. Lars Essling, a municipal commissioner (regional mayor) who has been instrumental in the success of the project, describes it as a plan to move Kiruna from a mining town to a space, computer and tourist centre. (See "The Revitalization of Kiruna" for more details.)

The project is run by a committee that includes representatives from the municipality, the mine, small business, unions, the University of Lulea and the national development fund we heard about in Stockholm.

A focus for the project was a "Start Your Own Business" training course organized with a business centre (see Kiruna Business Centre below). The aims of the course were to:

1. Identify entrepreneurs;
2. Promote the establishment of new companies;
3. Avoid the establishment of new companies based on inadequate business knowledge;
4. Promote a positive climate which encourages the start of small private companies in an area where large, state-owned companies previously dominated.

The training took place from 1982 to 1985. People were recruited from the town who were either not in business or who already had started their own small businesses. The assumption was that it would be easier to start or develop enterprises run by local people than to attract outside businesses. The trainees received 225 hours of computer-aided training. Of 489 people who entered the course at stage one, 218 completed stage three. Of the graduates, 41 started new businesses and 30 used their skills in their existing businesses. About 30 of the new businesses are still in operation after four years.

The project claims to have created 1,000 new jobs, including 400 in high-tech businesses, to offset the 3,000 lost at the mine.

Kiruna identifies education as the "dominant competitive factor" in attracting new investment, especially in the high-tech area, and say they still have a great need for education and training. The necessary conditions they identify are good co-operation among business, local government, schools and universities; well-trained teachers; adequate premises and equipment and a lot of time and money.

F. Business Centres

Skelleftea and Kiruna both have business centres that are a strong foundation for the development of local industry and business. Skelleftea's was started in 1967 and is much more comprehensive and well established than Kiruna's which was founded in the mid-1970s. They are examples of what could be achieved in the Yukon 10 and 20 years in the future. The basic idea behind the business centres is to provide central marketing, consulting and incubation services for new and established small and medium-sized businesses within a region. The same idea is supported in the manufacturing section of the Yukon Economic Strategy.

1. Expolaris (Skelleftea, Sweden)

The Skelleftea business centre, called Expolaris, was the first to be established in Sweden and is the most advanced. It was established specifically to address the lack of marketing skills in small businesses in the north. They help small and medium-sized companies market in Sweden and internationally.

It is a non-profit organization with a budget of $1.5 million. Of this, 25% comes from the two largest municipalities in the area, Skelleftea and Umea, and 75% is from the sale of its services. It is notable that SIND, the national development fund, does not provide funding. The people at Expolaris said it was their decision to remain independent from the central government and have more control of their operation. The municipality has the advantage of being able to finance projects without the help of government because it controls the revenue from local hydro power sales.

Expolaris has 250 member companies, which range from a few employees to the Boliden mine with 2,000. Larger companies are mostly benefactors rather than users of the service.

Expolaris has three branch offices in two counties. It owns its main office building, which has recently been expanded to include a hotel, restaurant and conference centre. Our visit coincided with opening celebrations for the new facilities.

Ingvar Johansson is the Marketing Director and one of the Expolaris staff of 20. He says it is becoming easier to convince companies they need marketing help. The Expolaris motto is: "Marketing begins before production and never ends with the sale".

Expolaris concentrates on helping businesses get started and then getting out when the business can handle its own marketing.

There are four branches of the centre:

1. Consultancy and Business Development: This is the core of the centre's services. It helps businesses evaluate prototypes, using the services of the

Skeria High-Tech Centre. It provides marketing research, analysis, plans and campaigns. It gets businesses with similar products together to develop co-ordinated marketing. For example, they have a co-operative of 16 joinery companies that are each now specializing. They have a central office that sends out orders to the appropriate company and markets the products internationally. Expolaris also markets the entire region in conjunction with the municipality, and it co-ordinates participation by its members in external product exhibitions.

Expolaris takes its own advice and markets itself to companies rather than waiting for companies to come to it. For example, it invites member companies to seminars and lectures and uses these occasions to promote its services. It will work with any company, but members are charged less than non-members, and it does not market agricultural or forestry products but only finished products and services. It also concentrates on promoting the region as a tourist destination rather than on marketing individual tourism companies.

2. Conference and Exhibition: This branch runs the conference services and the centre's exhibition of local products. An impressive example of using a local product is the chairs at the convention centre. They were locally manufactured from local wood with bentwood sides and upholstered seats and backs. They are lightweight and stackable, making them practical and functional but very attractive. The convention centre had hundreds of them and rearranged them according to need for everything from a small meeting to a large audience.

3. Expolaris International exports both goods and services (for example, they have sold the region's hospital services internationally and have helped build a hospital in Saudi Arabia) and researches international projects and business opportunities.

4. Services provides translation, correspondence and telex and fax services in many languages and office space for rent.

It was generally felt that we could have used a longer visit to Expolaris. It would have been useful to talk with one of the consultants about how they do the marketing as well as what they do.

The town marketing manager said it would be possible to hire one of Expolaris's consultants if the Yukon was interested in setting up a marketing centre.

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2. *Business Centre (Kiruna, Sweden)*

Kiruna has a smaller and younger version of Expolaris. It was founded in the early 1980s as part of The Kiruna Project to diversify the local economy.

It has one full-time officer for its 150 member companies, each with less than 50 employees, and is supported by a regional office in Umea. The regional office is part of a national network of centres with a total of 65,000 member businesses. Members pay an annual fee to the national office, which then

distributes funds to the regional offices. The fees are $300 per year plus $25 for each employee up to 25 employees.

The business centres need capital to establish themselves, but are self-financing within two years.

The goals of the business centre are to:

1. Assist new and existing small businesses in critical areas such as management, marketing, financing and manufacturing.

2. Provide administrative services such as telephone, copying, telex, word processing and mailing facilities.

3. Provide low-rent premises. Companies literally move into the centre for one to four years while they get established. The building is owned and operated by the municipality.

4. Provide a training centre for entrepreneurs (see Kiruna entrepreneurs' training course above).

5. Create a supportive "greenhouse climate" for business development through the co-operative services of the Kiruna Project committee, the federal Ministry of Trade and Industry and the SIND development fund, the marketing group for the region, the Institute of Engineering Research and the local branch of the National Organization of Small Companies.

6. Provide information to business. The centre acts as a gathering place for small businesses to exchange information and to co-operate. It monitors the national legislature for issues of interest to business and informs its members of relevant new technology.

The business centre also provides business unemployment insurance. For $300 dollars initially, and $20 a year, the centre will pay income insurance to a business owner who goes bankrupt. Retired members of the business centre become honorary members and work as volunteer consultants. An inventors' club has been established to nurture creative ideas and assist inventors in patenting, developing and marketing their inventions.

Lars Essling says the business centre and the training course have changed the mentality of Kiruna. Mine workers have turned into entrepreneurs, and the mine management now buys from local suppliers rather than importing. People now work so they can stay in Kiruna rather than coming to make some quick money and leave. They are choosing to live in Kiruna for its high quality of life.

The measure of the project's success is the number of new businesses and jobs created through the entrepreneurs' training course and the business centre. Later in this report we will see many of the results of The Kiruna Project.

V Examples of Economic Development

In this section of the report, the examples we saw of economic development are grouped together by sector. No attempt is made to analyse which examples would work in the Yukon and which would not. The main purpose of these examples is to demonstrate what the northern parts of the Nordic countries have managed to achieve despite their location and marginal economy.

They do, of course, have some considerable advantages over the Yukon. Their regional populations, although small by European standards, are still many times that of the Yukon. The ocean moderates the climate despite their location at the Arctic Circle. They are closer to major urban markets, and they have extensive hydro-electric generating facilities, which provide cheap power for industry.

On the other hand, the northern communities, such as Rovaniemi, were destroyed in the Second World War, and their economic development has occurred since then. In the case of Kiruna and Skelleftea, they originated as company towns entirely reliant on a single huge mine, a familiar scenario in the Yukon.

There are also cultural differences, but Canadians feel remarkably at home in Scandinavian countries because the differences are not extreme.

Consequently, despite the differences, the development experience of these communities is of great value to the Yukon. It can inspire creative ways of adapting this experience to the Canadian north and generally can broaden our conception of what is possible.

A. Manufacturing

A goal of the Yukon Economic Strategy is to diversify our economy through manufacturing. It mentions that the government will support manufacturing that has good long-term prospects for export, by providing funding and training. We saw many examples of that approach at work in Kiruna.

In the manufacturing sector, we came to the general conclusion that there wasn't a single job we saw that hadn't been created without financial help from some level of government, at times with extensive help.

The training courses and business centre mentioned earlier provided government-funded support for many small manufacturers in Kiruna.

A lot of the small businesses in the municipality are engineering firms that rely on contracts from the iron mine. The businesses we toured were examples of Kiruna trying to diversify its economy and move away from dependency on the mine.

1. High-Tech Grindstone Manufacturer

This company is the creation of one man. He was born and raised in Kiruna. And his greatest business asset is his brilliant inventor's mind.

His company is a world leader in a small, specialized niche: supplying high-quality grindstones to sharpen equipment for home and industrial use.

The most interesting aspect of his business is the robots he has invented to automate his production. He has about six employees, but after his latest round of automation he would increase production many-fold and would keep same number of employees, although he said he wouldn't actually need all of them.

He has a very sophisticated computer he uses for designing and imaging new robots and products. He has invented a robot that was patented worldwide for picking up individual items from a pile.

He had received five years of government assistance to get his operation to the profit-making stage. He says he wouldn't have made it if he had only two or three years of help.

The inventor and his robots could have been manufacturing any number of products. The combination of government help, his long-term commitment to Kiruna and his innovator's mind had produced a thriving high-tech business in the north.

2. ***Low-Tech Water Pumps***

The second invention we saw was a water pump called a "slingpump" that was powered by water current. It was invented by a Kiruna man who had the world patent. The company has sold a couple of hundred in its first year.

The waterpumps are missile-shaped with a propeller at the large end. There are three sizes, from one to two metres long, made of heavy polyurethane, stainless steel and aluminum. They have a tube coming out of the narrow end. When placed in the current of a river, they can pump water 25 metres vertically or 500 metres horizontally. They are cheap ($800 for the largest size), lightweight, portable, silent, non-polluting and low-maintenance as there is no motor and the water provides lubrication. The inventors are concentrating on the recreational home and vehicle market and Third World applications. We could imagine one at every riverside cabin in the Yukon. The obvious drawback is that it cannot be used if the river freezes.

The inventor is testing the pump to see if it can be used for generating power. He is interested in having a Canadian distributor.

(See "Slingpump" brochure.)

3. ***Sami Handicrafts***

We visited the workshop of two Sami men who carve knives following Sami traditions. They are one of a few local shops that take orders from all over the country. The knives are works of art with handles made from engraved reindeer horn and birch wood, with a metal blade and leather and horn sheath.

They also make wooden spoons out of birch burls.

The knives are high quality and cost from less than a hundred to many hundreds of dollars. The knives carved by Sami people are labelled as authentic Sami handicrafts to distinguish them from other similar products.

Sami handicrafts are widely marketed throughout Sweden and Finland as high-quality products unique to those countries. We saw them at airports, tourist attractions and stores everywhere, including in the capital cities.

(For a picture of Sami products, see the back pages of "Arctic Circle: Rovaniemi - Nuorgam".)

4. ***Mushrooms in the Mine***

In part of the LKAB underground iron mine, there is a pilot project underway growing exotic Japanese mushrooms called shiitake. The municipality got the idea from a 1988 economic mission to Japan. Growing mushrooms in mines has also been done in Sudbury, Ontario.

The mine provides an ideal environment because the mushrooms do not need light but they need a constant environment. They are being grown in a sealed room in the area of the mine that is used for research into air-quality control. It provides a ready-made computer-controlled environment.

The project has been going on for about four months. The managers estimated the shiitake mushrooms are sold for $40 a kilogram. The mushrooms have only been sold locally so far, but they plan to broaden the market. They also plan to grow other expensive species like morels and truffles.

Our delegation had some of the mushrooms with smoked reindeer for a delicious supper at the end of the day.

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5. Wood Planing Mill

In a village near Kiruna we visited a small wood-planing mill called "Arctic Wood". It produced several varieties of skirting, molding and trim.

The operator is a former sawmill employee who had received help from The Kiruna Project to invest in the planing equipment for his mill and to train about 10 employees. He started five years ago with a new kind of planer that is now worth twice his $1 million investment.

He buys rough pine boards and increases their value by milling them. He has an expert who sorts the wood and decides the best use for each piece. The least useful wood is turned into packaging for a car factory and is sold for twice what he pays. The most valuable becomes high-quality trim and molding worth 10 times as much.

The mill is fully automated, and, after sorting, the wood is not handled from the time it enters the process until it is ready for shipping. The mill does custom orders over a minimum value by designing a new bit for the computerized equipment to make a specific kind of molding.

The owner said he could have located anywhere but he chose to establish near Kiruna because of the good incentives offered to new businesses and because of the regional transportation. Wood is shipped from southern Sweden to ports and markets in northern Norway, so he is conveniently located on a major shipping route close to his markets in northern Norway and Britain.

He also said he wanted to make a contribution to northern Sweden by helping the government keep jobs and industry there and he personally prefers to live in the north.

He has recently started getting marketing help from the Kiruna business centre. His current marketing method is to send prospective customers a small first order for a very low price as a modified free sample.

He now gets government subsidies for shipping his product as far as the Swedish border in any direction and a lump sum to spend as he chooses on

training his staff. He also gets a subsidy of 50% of the salary for any new employee for the first three to six months and an ongoing subsidy for creating a job. This is in addition to the 10% tax break that all northern businesses receive.

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6. ***Greenhouse Tomatoes***

In another small community outside Kiruna we visited a greenhouse operation that grows tomatoes using hydroponics.

This is the operator's first year of production. He is a former mechanic who received three years of training, paid for by the government, to learn the greenhouse business. He has also received a subsidy from the municipality for starting a new business. He plans to produce tomatoes from March to November, the months when there is enough sunlight. He produces 300 to 400 kilograms of tomatoes once or twice a day at the peak of the season.

He sells them locally in Lulea and Kiruna. Tomato sales in these areas have increased 1,000% since he started supplying the market. The alternative is tomatoes from Spain that take two weeks to get to the market and are poorer quality. His prices are 50% higher than the imported tomatoes, and he attributes the increase in demand to people's preference for a local product which is nutritious, chemical-free and of superior quality.

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7. ***Gemstone Business***

We visited a multi-faceted gemstone business in yet another small community. When the owner started his business eight years ago, there were 100 people in the village. Now there are 160. He claims that's because he employs 20 people.

Northern Sweden is well known for gold panning and is generally rich in minerals.

He started his business polishing local gemstones and minerals and selling them as jewelry. His business has since expanded into many other aspects. He teaches courses in gemstone polishing from one week to two years in length. He has students from all over Scandinavia. There are national shows for selling gemstones and his students have participated.

Tourism is the other major aspect of his business. He has about 10,000 visitors a year. There is a great interest in rock hounding. He gives tourists a short lesson and a pick and sends them out with a guide to see what they can find. His more experienced students act as guides. He said rockhounding is a good activity to add to a holiday along with fishing, boating, camping, etc. He plans to build a cottage development so tourists can stay right in the town and for people taking courses.

He has a retail store where he sells his stones, geological equipment, literature and polishing equipment including the machine for stone polishing that he invented himself.

He is also a gold panner and is organizing the world gold pan-throwing contest this year (i.e. throwing the pan between your legs, paddling a canoe with two pans, etc.). We promised to send him an invitation to the 1990 world gold-panning championship in Dawson City.

Our delegation felt rock hounding would be a relatively simple and popular addition to tourist packages in the Yukon.

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8. ***Furniture Maker***

Finally, we visited a furniture making shop in a small building at the home of one of the partners. It employs three people: two carpenters and a designer with training as an artist.

They have a totally integrated operation. They select and cut their own trees, which they described as a very important step. They dry and cut the wood and design and build the furniture themselves. The furniture is good quality and sells for about $900 for a dining table. All their large pieces are collapsible and portable.

They don't do any marketing now but take special orders and sell to people who drop into the workshop.

The partner we spoke with worked as a logger and in a sawmill and had some formal woodwork training before he started the business. He received financial assistance from the municipality to get started.

B. Tourism

Along with high technology, tourism is seen by the northern communities we visited as their best bet for economic development.

Although these towns are much closer to major markets than Whitehorse is (Kiruna is a 1 1/2 hour flight from Stockholm, and just a couple more hours to Frankfurt), they are still considered remote, by European standards, with cold climates. They have turned these traits to their advantage. Their biggest selling points are the last European wilderness and the Sami culture which is unique to this part of the world.

1. Kiruna, Sweden

a) Jukkasjarvi

A small Lappish, or Sami, village about half an hour's drive out of Kiruna has been developed into a tourist centre.

The members of the local heritage association, working to preserve historic buildings in the village, formed a tourist company about 10 years ago. They started with one employee and now employ 50 year-round and about 110 in the summer. In 1983, they renovated an historic building and opened it as a small but very pleasant convention centre in a country setting.

The original employee is now manager of the operation. He explained they concentrate on attracting the corporate incentive travel market, which accounts for 60% of their business. The incentive travel market is considered the most lucrative and fast-growing by all the tourism people we met. These are packaged trips taken by employees of a company as reward for work done and "incentive" to work harder. The usual trip combines a couple of days of "adventure" with meetings. This kind of trip is very popular in Europe and is open for anyone who can offer an exotic experience combined with first-class meeting facilities. Incentive travel is also becoming popular in North America.

One of Jukkisjarvi's incentive programs offers, in addition to pristine scenery and comfortable accommodation, a program put on by local Samis. Visitors watch them herd reindeer, then eat Sami food such as smoked reindeer and stay overnight in tents. The next day they go river rafting, have a sauna, a party and a visit to the iron mine. This costs $800 per person round trip from Stockholm.

Jukkasjarvi has 100 high-standard rooms in cabins. They also rent 22 boats of various types for canoeing and fishing, offer guided hikes and rafting trips in summer and dog sled trips and skiing in winter.

They do their own marketing (See "The Gateway to the Wilderness" and "Make Your Conference a Wild Adventure: Shooting the Rapids").

There are also extensive conference facilities for up to 450 people in the town of Kiruna, and Jukkasjarvi includes them in its marketing to attract larger groups to the area.

b) *Winterpalace Hotel and Tourist Company*

Another operation in Kiruna is a private company run by Dan Bjork, who lived in the Yukon for a year, and his partner.

Winterpalace is just beginning. It offers conference facilities and adventure experiences for the incentive travel market, and will concentrate on smaller business groups of six to eight. It operates from a very tastefully renovated and redecorated old hotel in the town that used to be the single-men's residence for the mine. One room in the hotel will be decorated to look like a Sami hut.

Bjork is building a business relationship with the Sami people in the area. They have special hunting and fishing rights in some areas. He said he is one of the first people to try to negotiate a mutually profitable business arrangement with the Samis so he can take tourists to the areas they control, use their huts and pay them a fee. He is very enthusiastic about the opportunity this arrangement holds for both him and the Samis.

Since Kiruna is virtually unknown on the incentive travel circuit, a new operator must aggressively go after clients rather than waiting for them to come to it. Bjork said the important elements of a successful incentive travel business are that the operator offer a wide variety of activities so the trip can be tailored to the customers' wishes and that the service is world class. Winterpalace offers fishing, canoeing, mountain climbing, downhill skiing, dog sledding and white-water rafting, and is prepared to organize mountian-bike riding, horseback riding and anything else that is requested.

(As a sample of Winterpalace's marketing see brochure: "Hogst, mest och vackrast: Vildmarks Service".)

c) *Nikoluota Sami Lodge*

We briefly visited a tourist facility run by a Sami. It is a large, modern lodge in a lovely wilderness setting on a river bank about an hour's drive from Kiruna. It is open in the summer only. It has a restaurant and offers cabins for rent. It is popular as a starting point for hikers and boat tours up the river and offers visits to Sami reindeer camps. Three busloads of Germans pulled up in the half hour we were there. The Sami owner greets visitors in his colourful authentic Sami clothing.

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2. *Rovaniemi, Finland*

Rovaniemi has made a virtue out of being on the Arctic Circle. Its tourist board is the most aggressive marketer of the northern wilderness experience and winter tourism of all the areas we visited. The Norwegians commented that Finland was even out-marketing them in selling the North Cape, at the northernmost point of Norway, to Finnish tourists.

Rovaniemi's tourist board is composed of half government and half business representatives. All local businesses and communities are members. This high level of co-operation has allowed Rovaniemi to have a very co-ordinated regional approach to tourism marketing.

The omnipresent theme in Rovaniemi's tourism marketing is Santa Claus. There is a tourist theme park called Santa Claus Village and a newsletter that describes all the VIP visitors Santa has had (the president of India, for example) and the visits he has made himself (for example, to Japan) complete with photos (see "Santa's News"). There are direct flights from England at Christmastime for one-day visits to Santa.

Santa promotes all the other winter experiences available in Rovaniemi. These include cruises on icebreakers in the Gulf of Bothnia (see "Journey Through the Ice: Sampo, an Arctic Tourist Icebreaker"), telemark, cross-country, and downhill skiing, snowmobile and dogsled trips, reindeer safaris, ice fishing and other activities.

Finnish winter tourism does have one big advantage that the Yukon doesn't. It is a Finnish tradition to take a week of winter holiday in the northern forests, rather than on tropical beaches. This creates a large domestic market for winter tourism.

In the summer they promote the midnight sun. Japanese tourists take "the midnight sun tour" of two days in Helsinki and one day in Rovaniemi. Rovaniemi is promoted as part of a circuit through the northern parts of Norway, Sweden and Finland (Skelleftea and Kiruna, in Sweden, also promote themselves as part of this circuit). A sampling of summer activities includes gold panning, fishing, canoeing and nature weeks including: bird week, photography week, flora week and mushroom week.

Right now 80% of Rovaniemi's business is domestic tourists; most of the rest come from central Europe. They do not devote any energy to promoting bus tours. They get lots of buses from Germany but all the money stays in Germany. Rovaniemi, like Kiruna, sees incentive travel as its biggest growth market.

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3. Skelleftea, Sweden

Skelleftea promotes tourism, but it also promotes itself.

The municipality has a Marketing Director. His job is to increase the national and international profile of the town to attract both new investment and tourists.

The municipality works with Expolaris, the business centre, on marketing. Their plan is to attract one international event to the municipality each year. The event has to be something that will be covered by the international media. They have had international championships for ski orienteering and bicycle racing and the European championship for women's volleyball.

This summer they are hosting the European chess championships for three weeks. It will be augmented by a cultural festival including a wrap-up "chess concert" with international performers. They will produce a promotional video of the concert.

Skelleftea also has a more conventional tourism industry. It promotes itself as the gateway to the north for southern visitors, but its biggest market is from the other direction. Visitors from further north in Norway and Sweden go south to Skelleftea for the sun and beaches (warm summers are created by its proximity to the ocean). It also gets visitors from the middle of Finland because there is a direct ferry link. These are destination tourists, not pass-through tourists, and they make Skelleftea the third biggest tourist destination in Sweden. Most of these tourists are campers, and sunning, swimming and shopping are the three most popular activities. Consequently, Skelleftea's summer tourism doesn't have much in common with the Yukon.

Skelleftea also is trying to expand its market into winter tourism by attracting the corporate incentive traveler with wilderness dog sledding and snowmobiling.

One interesting innovation is their portable tourist cabins. There are wooden cabins about five metres square that are rented to tourists. They are moved to the ski hills and trails for the winter and then moved to the beach area in the summer. Thus, one set of cabins becomes two facilities.

C. Specialty Foods

In all three countries we visited, and especially in the north, there was great emphasis placed on the locally produced food.

In Stockholm, Helsinki, Rovaniemi, Skelleftea and Kiruna we ate at restaurants that promote themselves as having authentic cuisine for their country or region. That means foods such as cloudberries and lingonberries, reindeer, ptarmigan, elk (moose), salmon and herring. These were marketed as gourmet meals, and not only were visitors provided with a unique experience, but suppliers benefitted from the sale of locally produced foods (see sample menus).

Norrfrys, Haparanda

Norrfrys is a division of the Lehto corporation located in the town of Haparanda on the Swedish side of the border with Finland.

It is a huge operation by northern standards. Its slogan is "A taste of untouched wilderness". It processes salmon, reindeer, moose, rabbits, game birds, lingonberries, cranberries, cloudberries and blueberries. Most products are vacuum packed and frozen and are sold only to industrial suppliers who buy a minimum of 50 kilograms.

a) Berries:

Norrfrys has 75% of the Scandinavian market for wild berries.

In Sweden the forests are publicly owned and anyone can pick wild berries. Berry picking is part of the culture, and families do it as part of their summer activities. They can sell their berries to local co-ordinators who then supply Norrfrys. They are paid about a dollar a kilogram for lingonberries, for example. This is a particularly profitable way for Swedes to make extra money because it is generally accepted practice not to pay income tax on it.

It may be possible that wild-berry picking could work in a country where it wasn't as much a part of the culture by promoting the money-making aspect. An individual could be allocated a berry-picking licence, similar to a wood-cutting licence, for a certain area for the summer. Norrfrys estimates pickers could make about $10 an hour.

It is a business suited to the north because the processing operation has to be located very close to the supply.

Norrfrys considers 10,000 tonnes a year to be the minimum required to run a freezing operation like theirs. Although it sounds like a huge volume, it is estimated that only 1% of the berries in Sweden are picked.

Norrfrys has a huge freezer capacity and freezes all berries immediately upon arrival. It then employs staff year-round in packaging. It is considered too expensive to have seasonal employees because new staff must then be trained

every year. Norrfrys has extensive machinery for cleaning, freezing, electronic colour sorting and packaging.

b) Game:

The Swedish government allows the sale of wild game. It gives out a limited number of harvesting licenses each year depending on the health of the species population. There are two slaughterhouses licenced for the export of wild meat in Sweden. Norrfrys owns both.

They slaughter 25,000 domestically raised reindeer a year and have a deer by-products company that uses the antlers and hides. They also supply 2,000 game birds and 1,000 tonnes of moose annually to the Scandinavian market.

Norrfrys buys berries and meat from all over the north of Europe to ensure a steady supply. The company expressed an interest in marketing anything the Yukon can supply it and is also interested in technology transfer to North American companies (it has a subsidiary in San Francisco).

For both berries and game, marketing is the biggest expense. It takes seven to eight years to build up a profitable market by educating the consumer and building demand.

Norrfrys sponsors a northern food show for companies from Scandinavia and the Soviet Union. It is also trying to involve Canada and Alaska.

(See samples of packaging and promotional material.)

D. Public Services

1. Decentralization

a) Overview

Local control of government responsibilities and spending is a basic principle of government in the Nordic countries, as described in the section on economic development programs. As well as ensuring decisions are relevant to a local population, this strategy also ensures that government jobs are distributed throughout the country and that local governments are sophisticated and well staffed and offer interesting careers to local people.

In addition to the usual benefits from the government philosophy of decentralization, we saw instances where communities had taken determined action to get national services or institutions, that could easily have been located in larger cities, in order to improve their local economies. They made strong arguments that being small northern communities was either irrelevant or even an advantage.

Two examples described already are the Arctic Centre in Rovaniemi, which intends to be an international circumpolar centre and argues that its northern location is critical to that role, and the super computer in Skelleftea, which argued that there is no reason why a national facility cannot be in the north and bought one to prove it.

In Kiruna, we saw a number of examples of government offices and private businesses that Canadians would be surprised to find in our north.

b) Space Research Centre

Kiruna's high latitude and remote location are extremely favourable for research into the Aurora Borealis, the reception of satellite information and the tracking and control of satellites. Kiruna has chosen space research and space-related industries as having great potential for diversifying its economy.

Kiruna's first space research centre was opened in 1957, but in the last few years Kiruna has developed into a European centre for space-related activities. About 200 people are now employed in companies and institutes involved in these activities. The number is expected to rise to 350-400 people in three or four years. Every new job in the space industry generates two to three jobs in support areas, including high-technology services.

For the future, Kiruna has plans for two new international centres: for peaceful civilian satellite use and for remote-sensing training.

One of Kiruna's largest spin-off industries from space research is a mapping service using satellite imaging. It makes a profit selling its mapping services to 15 countries including Canada (the provinces of New Brunswick and Nova Scotia). It is also a branch office of the national mapping service and has

been given the multi-year project of preparing the new official atlas for Sweden.

An important factor in Kiruna's success in the high-tech, space-research area was the early, intensive automation of the iron mine. It gave the local population the opportunity to become comfortable with computer technology years ago. That experience has led to a general willingness and ability to work with high-technology.

(See "The Revitalization of Kiruna: Its Transition from Mining Town to Space, Computer and Tourist Centre.")

c) *Television Licencing*

Sweden requires owners of television sets to buy licences (as does Britain), and Kiruna is the new location for the national television licencing office.

The national government indicated it was willing to move the licencing office if a suitable location could be found. Kiruna wanted the jobs and made the argument that its work force, with its experience with computers and electronics, would be compatible. All it needed was the appropriate office space.

The municipality constructed a modern office block in Kiruna in one year at its own expense. It then had both the workers and the space and promised the government it could do the licencing at the same cost as Stockholm and would pay to train the workers. The national government agreed to move the office.

It employs 90 people, mostly women, which is important to northern communities which tend to offer fewer jobs for women than men. Kiruna charges the national government rent for the building and also rents space to other tenants such as the mapping service.

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2. *Recycling*

One of the most impressive examples of technology we saw was the solid-waste heating plant in Kiruna. It is an environmentalist's, and city administrator's, dream.

In 1982, 90% of Kiruna's heat was supplied by oil. In 1988 it was only 24% because of the heating plant. The decision to build the plant was made when oil prices escalated in the early 1980s. It now supplies 57% of the overall heat for the town; oil provides 24% and electricity from local hydro dams supplies 19%.

The plant provides heat to almost all of the large public and private buildings and some of the housing complexes in Kiruna. It is not used for private homes. It supplies the heat through a 25 kilometre underground network of insulated hot-water pipes.

The heat is produced by burning all of the city's industrial and domestic garbage. It is collected by truck and dumped, unsorted, into a holding pit at the plant. It is augmented by locally harvested peat and by waste wood from pulp and lumber operations such as the Arctic Wood planing mill described above. The goal is to use the optimum combination which produces the most heat for the least cost. Kiruna's peat, birch and pine can be replaced by any kind of wood.

The temperature of the water is controlled. In summer it goes out at 90 degrees Celsius and comes back at 70 degrees. In winter it goes out at 110 degrees and comes back at 60 degrees.

The plant was built with grants and loans from the national government, but it now makes a good profit. The technology and equipment is from Denmark and is very simple to operate and maintain. There have been no problems in the four years of the plant's operation. Training for employees only takes a couple of days.

There are three rules for operating the plant:

1. The waste must be burned at over 800 degrees Celsius or toxic smoke will be created;

2. It burns 24 hours a day; and

3. Emissions are controlled.

The emissions from the plant are put through an electro-filter which removes 99% of the toxins. The end product is ash, which is toxic, and is buried in the city dump in waterproof pits. This and non-combustible garbage such as iron are the only occupants of the city dump. Kiruna has the cleanest air in Sweden.

(See pamphlet "Kiruna Varmeverk AB" for an illustration.)

E. Resource Based Industries

While attempting to move toward high-technology- and tourism-based economies, the northern communities we visited are still fairly dependent on resource-based industries. We found that diversification includes applying new technology to traditional industries.

1. LKAB Iron Ore Mine: Kiruna, Sweden

Before the world demand for iron ore fell in the 1970s, LKAB was the largest producer in the world. Since 1976 the number of employees at the mine has dropped from 5,000 to fewer than 2,000.

The mine management decided that the only way for the mine to survive was to make highly specialized ore products for its customers and to automate as much as possible.

Now the mine produces various grades of ore in different forms for different refining processes.

The automation means that three-quarters of the employees work above ground in ore preparation, transportation, administration and maintenance. The other quarter are found mostly in computerized control rooms or operating machinery underground. Mine workers were retrained as computer operators, rather than a new computer-trained workforce being hired. The trains for transporting ore, for example, are all computer controlled from a central location. It was an eerie experience to watch the ore trains maneuvering through an underground switching yard without a human being in sight.

2. Forestry: Rovaniemi, Finland

The Lapland province of Finland produces 10% of Finland's forestry products. The 5 million cubic metres of wood cut annually makes up 70% of primary production in Lapland (most of the rest is milk production). One in nine people in the province make their living from forestry.

There are 21 different types of regulatory protection for forests. They are administered by the national forestry board, and some classifications allow logging. Most of the forest in Sweden and Finland is owned and managed privately. Public logging is done to ensure a steady supply of wood to mills when the buying price is low. Forest lands are taxed so owners have an incentive to log.

Rovaniemi has the largest station of the national forest research institute with 90 staff and 19 researchers in:

- Northern characteristics,
- Forest regeneration,
- Silviculture (reforestation),
- National forest inventory,
- Multiple use (reindeer, berries, game management),
- Data processing, and
- Forest damage (such as air pollution from the Soviet Union).

Seven complete inventories of Finland's forests have been completed. One is done every eight to 10 years.

In the north, they have not yet started cutting their second-growth forest which was planted at the turn of century. There was excessive felling in the 1950s and '60s, and reforestation has not yet compensated.

(See "The Finnish Forest Research Institute".)

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3. *Reindeer: Rovaniemi, Finland and Kiruna, Sweden*

Reindeer herding has been carried out for 3,000 years in the Nordic countries.

In Sweden and Norway, by law, reindeer can only be herded by the Sami people. Both countries say it is the main source of income for the Sami community and consequently of some significance to the northern economy while marginal to the national economy.

Reindeer herding is important to the tourist business in Kiruna. Reindeer meat was on every menu, and Sami culture is one of the main drawing cards. We met a Sami reindeer herder, Manne Stenberg, who, just weeks before, had visited the Northern Splendor reindeer farm near Whitehorse.

He lives in a small Sami village and processes his own reindeer and fish for the local market. At his farm he has a smokehouse, freezing plant, vacuum packing and tanning operation. He also has a hangar for his Cessna and a garage for his Mercedes. He hosts tourists who want a taste of a Sami reindeer herder's life. Although he is perhaps not a typical Sami.

In Finland, anyone can herd reindeer. There is a well-organized reindeer herders' association.

There is also a long tradition of reindeer farming, which is not practiced at all in the other two countries. There are 700 farms with an average of 30 reindeer each. Reindeer herds, on the other hand, have many thousands of animals each. The farms often include tourist activities such as sleigh rides and viewing areas.

As a measure of the size of the Finnish reindeer industry, the entire country is divided into 57 different regions for reindeer husbandry. There are about

360,000 reindeer in total, 134,000 males are slaughtered each fall and the industry is worth $20 million per year. There are 7,645 reindeer owners, and 2,300 families get part or all of their income from raising reindeer.

A big problem is the conflict with the forestry industry. Reindeer prefer old forests because they feed on the lichen, and there is getting to be less and less old forest. Clear-cut logging ruins reindeer herding routes, and reindeer eat reforested seedlings.

Tourism is also a problem. "Free roaming people" interfere with the reindeer. These land-use conflicts have not been resolved.

Reindeer herders get financial compensation from the state when reindeer are destroyed by wild animals, from forestry companies when they are killed in forestry operations and from insurance companies when they are killed by cars. About 4,000 reindeer a year are killed in these ways.

As well, all the Nordic states compensated their reindeer herders when huge numbers of reindeer were determined unsafe for human consumption because of nuclear fallout from the Chernobyl disaster in the Soviet Union.

The reindeer herders' association says the industry is valuable to Finland because it is well adapted to the northern climate and can be done in areas where no other industry exists, helping protect the sovereignty of Finland over its northern land. Nevertheless, it is fighting for its survival against the increasing encroachment of other industries.

(See: "Suomen Porotalous - The Reindeer Industry of Finland" and "Finnish Reindeer: A fine product of unspoiled nature".)

VI Observations

The previous sections of this report attempt to be objective about what was seen on the economic mission. Their intent is to report information and place it in context.

This section is intended to supplement that information. It is a brief summary of the impressions and conclusions that the delegates gathered on the trip, including what they found most promising or applicable to the Yukon economy. It is a list of relevant highlights and is not exhaustive.

1. Solid Waste Heating Plant - Kiruna

The delegates who toured this facility believe it would be an ideal, environmentally safe solution to garbage in Whitehorse. It burns all of the community's waste and generates most of its heat without polluting. The system is simple and efficient, and it makes money. It is in a community the same size as Whitehorse with similar local resources and climate. The technology requires very little maintenance and is available for sale in Denmark.

2. Business Centres - Skelleftea and Kiruna

This is another promising possibility for the Yukon. These centres are supported by fees from local member businesses and by the local government. They supply services, such as marketing, that new businesses and small businesses find it difficult to afford themselves. They develop expertise from which the entire business community can benefit.

The centres have had great success in Sweden even in remote areas such as Kiruna. Kiruna began with very few small businesses and has used the centre as a training and consulting service for business. The result has been dozens of successful small businesses.

The Yukon could take advantage of the Swedish experience and expertise in this area by hiring a Swedish consultant to help us establish our own business centre. The business centres were good examples of local government and business working together, a well-developed approach throughout the Nordic countries.

3. Winter Tourism

The northern regions of the Nordic countries all consider tourism their most promising industry. They sell two things that the Yukon has in abundance: wilderness and winter. They concentrate their efforts on attracting big money

by selling package tours to business groups. They market their area as a destination of world-class quality and make sure they have the high level of service to back that claim. They also have convention facilities so that groups can combine business and pleasure. They capitalize on other things familiar to Yukoners -- Santa Claus, the Arctic Circle and the Midnight Sun -- to attract visitors.

The delegates were convinced that the Yukon had the same attractions to offer tourists and could benefit from their approach to attracting business groups and promoting the arctic winter experience. We had the distinct impression that the Yukon tourist industry could grow in this direction.

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4. Space Research Centre

Along with tourism, high-technology is considered the most promising industry in the north. The northern communities recognize that if they expect to participate in the national and international economies they will have to keep pace with the high-tech world.

Kiruna has refused to accept that a remote northern location is a hindrance to this involvement. It has attracted a national space research centre because of its ideal geographic conditions. The local mine is highly automated, which has increased the computer literacy of the general population. The business community and government work together to provide training and facilities for new high-tech businesses. They have used these selling points to attract a number of high-tech businesses that operate nationally and internationally.

It is an inspiring demonstration that the North should not accept traditional limits to the kinds of businesses that can thrive in the North, but must be aggressive in attracting them.

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5. Focus on Training

In all three countries we were told repeatedly that training is the most important single factor in economic development. The general belief is that the more highly trained a population is the more business it will attract. This belief has resulted in facilities like the University of Lapland with full degree-granting programs; the Arctic Centre, which plans to become a circumpolar institute; the Skeria High-Tech Centre in Skelleftea with its super computer and forestry products research; the entrepreneurs' training course in Kiruna which had turned unemployed miners into entrepreneurs able to start and run their own businesses rather than leave town to find a job. Local training means giving local people the opportunity to stay in the community, and it stabilizes the economy.

The delegates saw the critical need for Yukon College to provide training for these reasons.

In Sweden highly trained people are also seen as the future of their economy. They anticipate that exporting the services of expert consultants will be a growth industry.

6. Local Initiative

The most impressive accomplishments in northern communities are the national facilities or services they had attracted through determination and perseverance. The super computer in Skelleftea, the Arctic Centre in Rovaniemi and the national television licencing centre in Kiruna are all the result of local initiative. They are projects the national government supported financially, but they could have been located anywhere in the country. Local business and government worked together to attract facilities that resulted in jobs and investment in their communities.

Given a federal government inclined to support regional development, the Yukon could benefit from seeking appropriate federal projects for the territory.

7. Local Specialty Foods

An industry that the delegates felt holds promise for the Yukon is the production and marketing of local foods. The northern communities we visited all make wide use of foods indigenous to their region. Restaurants serve reindeer and wild berries and local fish. The Norrfrys plant in Haparanda, Sweden is a multi-million-dollar business based on processing and selling these local foods nationally and internationally. The availability of local food enhances tourism and provides employment in a truly northern industry.

8. Circumpolar Contacts

Overall, delegates were left with the strong impression that the Yukon has much in common with the northern parts of the Nordic countries. Their experience can provide us with more relevant information than can that of Western Europe or the United States or even southern Canada in some instances.

We recognized that there are many area of overlapping interest and experience in addition to economic development: aboriginal issues, education, social programs and science, to name just a few.

In most cases the Scandinavians are ready and willing to share their knowledge and experience, and they are 10 to 20 years ahead of the Canadian North in areas such as economic development.

In the short time we were in these countries we identified numerous opportunities to develop circumpolar connections such as through Yukon

College, various territorial government departments, business and Indian organizations and the library.

We would urge northern Canadians in a wide variety of fields to look to the Nordic countries as a resource. The Scandinavian culture is very comfortable for Canadians, and modern communications make the exchange of information relatively simple, especially since almost all Scandinavians speak English.